Center for
Health Statistics

California Department of Health Services

November 2003

DATA SUMMARY No. DS03-11002

This Data Summary is one of a series of leading cause of death reports.

Highlights

- **Cerebrovascular disease is the third leading cause of death in California and in the United States.**
- **People aged 65 and older had 88.5 percent of all cerebrovascular disease deaths in California.**
- **California's age-adjusted death rate was 59.4 per 100,000 population.**
- **California has not yet met the Healthy People 2010 National Objective of an age-adjusted death rate of no more than 48 deaths per 100,000 population.**

Cerebrovascular Disease Deaths California 2001

By Cheryl Wilson

Introduction

Cerebrovascular disease (stroke) is the third leading cause of death in California and in the United States (U.S.), following heart disease and cancer.[1,2] In addition to being a leading cause of death, stroke is also a major cause of disability. Each year in the United States, approximately 700,000 people will suffer a new or recurrent stroke. For about 500,000, these are first stroke attacks and for 200,000 recurrent attacks.[3] In 2001 the number of deaths due to cerebrovascular disease declined 2.4 percent among all Americans from 167,661 deaths in 2000 to 163,601 deaths in 2001.[2,4] During this same period, California residents experienced a slight decrease in the number of cerebrovascular disease deaths from 18,090 deaths in 2000 to 18,078 deaths in 2001.[1,5]

Due to the prevalence of cerebrovascular disease in this country, the U. S. Public Health Service established a national health objective for Healthy People 2010, seeking to reduce the number of cerebrovascular disease deaths to an age-adjusted rate of no more than 48 deaths per 100,000 population.[6] California's rate of 59.4 deaths per 100,000 residents has not achieved this objective.

This report presents data on California's cerebrovascular disease deaths for 2001, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, and race/ethnicity. The cerebrovascular disease data included in this report are extracted from vital statistics records with death attributed to cerebrovascular disease as defined by the International Classification of Diseases, Tenth Revision (ICD-10) codes I60-I69 in accordance with the National Center for Health Statistics Reports.[7]

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[1] State of California, Department of Health Services, Death Records. 2001.
[2] National Center for Health Statistics, Deaths: Preliminary Data for 2001, National Vital Statistics Reports, Vol. 51, No. 5, DHHS Publication No. (PHS) 2003-1120, PRS 03-0165, March 2003
[3] Centers for Disease Control, Cardiovascular Health: Stroke Fact Sheet. May 2003.
[4] National Center for Health Statistics, Deaths: Final Data for 2000, National Vital Statistics Reports, Vol. 50, No. 15, DHHS Publication No. (PHS) 2002-1120, PRS 02-0583, September 2002.
[5] State of California, Department of Health Services, Death Records. 2000.
[6] U.S. Department of Health and Human Services. Healthy People 2010 Objectives (Second Edition, in Two Volumes). Washington, D.C., January 2001.
[7] National Center for Health Statistics. Vital Statistics, Instructions for Classifying the Underlying Cause of Death. NCHS Instruction Manual, Part 9. Hyattsville, Maryland: Public Health Service. 1999.

A description of methods and a brief overview of data limitations and qualifications are provided at the end of this report.

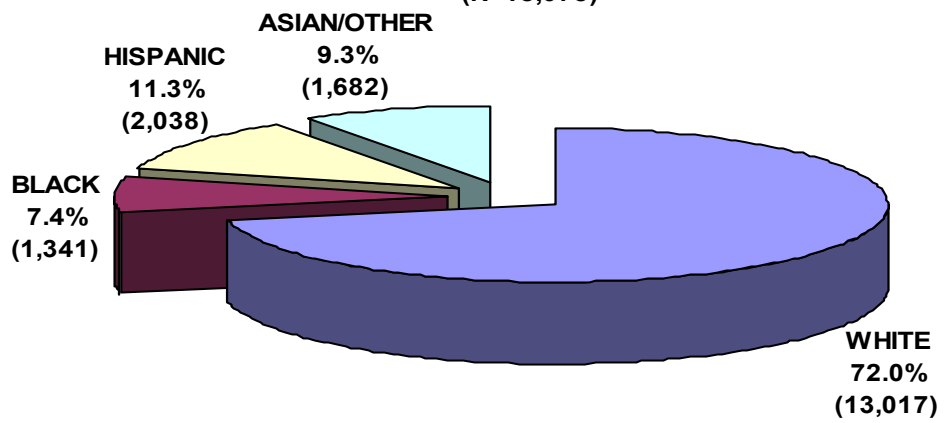
Cerebrovascular Disease Deaths

Table 1 (page 9) shows California's cerebrovascular disease death data by race/ethnicity, age, and sex. In 2001 California's female residents had 59.6 percent of the total cerebrovascular disease deaths and males had 40.4 percent. During this year, the cerebrovascular disease death ratio was 1.5 female deaths for every male death.

For California residents overall and within each of the major race/ethnic groups, cerebrovascular disease deaths were highest among people aged 65 and older. In California, 88.5 percent of all cerebrovascular disease deaths occurred in this age group. Among individual race/ethnic groups, decedents aged 65 and older accounted for 92.8 percent of the deaths among Whites, 82.2 percent among Asian/Other, 75.6 percent among Blacks, and 74.7 percent among Hispanics.

Figure 1 shows Whites had the highest percentage of cerebrovascular disease deaths (72.0 percent) among all California residents, followed by Hispanics (11.3), Asian/Other (9.3), and Blacks (7.4).

FIGURE 1
CEREBROVASCULAR DISEASE DEATHS
BY RACE/ETHNICITY*
CALIFORNIA 2001
(N=18,078)



Source: State of California, Department of Health Services, Death Records.
***Calculated using death data for California residents only.**

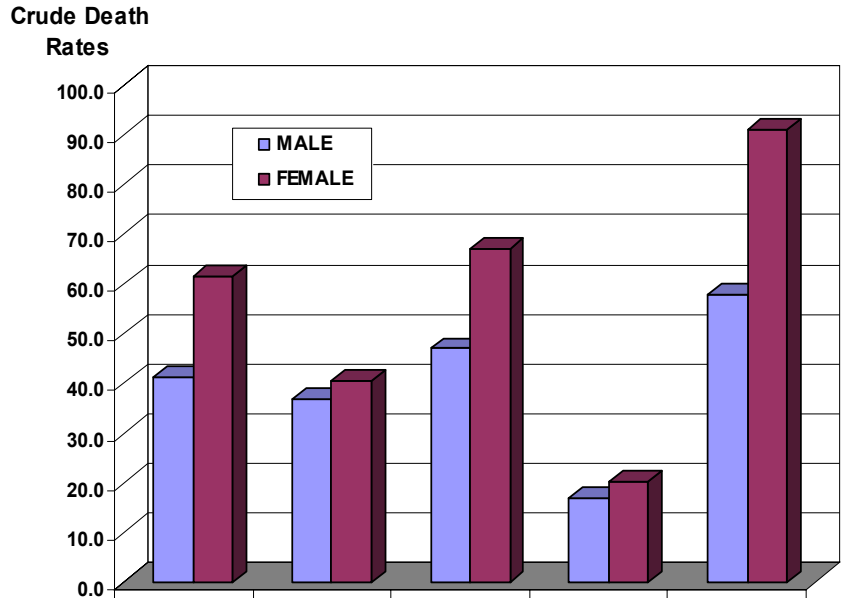
Cerebrovascular Disease Crude Death Rates

Table 1 (page 9) shows California's cerebrovascular disease crude death rate in 2001 was 51.3 per 100,000 population. Among the major race/ethnic groups, Whites had the highest crude death rate (74.4), followed by Blacks (56.9), Asian/Other (38.6), and Hispanics (18.5). In 2001 the crude death rates for the individual race/ethnic groups were lower than those reported for 2000, except for Hispanics.[5]

See the Methodological Approach section later in this report for an explanation of crude and age-specific death rates.

As shown in **Figure 2**, California's female residents had a higher overall crude death rate, 61.5 per 100,000 population, compared with the male rate of 41.2. Similar patterns also occurred among males and females within each race/ethnic group. White females had a rate of 90.8 per 100,000 population, while White males had a rate of 57.6. Black females had a rate of 66.8 compared with Black males with a rate of 46.8. Asian/Other females had a rate of 40.4 and Asian/Other males had a rate of 36.8. Hispanic females had a rate of 20.3 while Hispanic males had a rate of 16.8.

FIGURE 2
CEREBROVASCULAR DISEASE CRUDE DEATH RATES BY SEX AND RACE/ETHNICITY*
CALIFORNIA 2001



	TOTAL	ASIAN/OTHER	BLACK	HISPANIC	WHITE
MALE	41.2	36.8	46.8	16.8	57.6
FEMALE	61.5	40.4	66.8	20.3	90.8

Source: State of California, Department of Health Services, Death Records.
***Calculated using death data for California residents only.**

Cerebrovascular Disease Age-Specific Death Rates

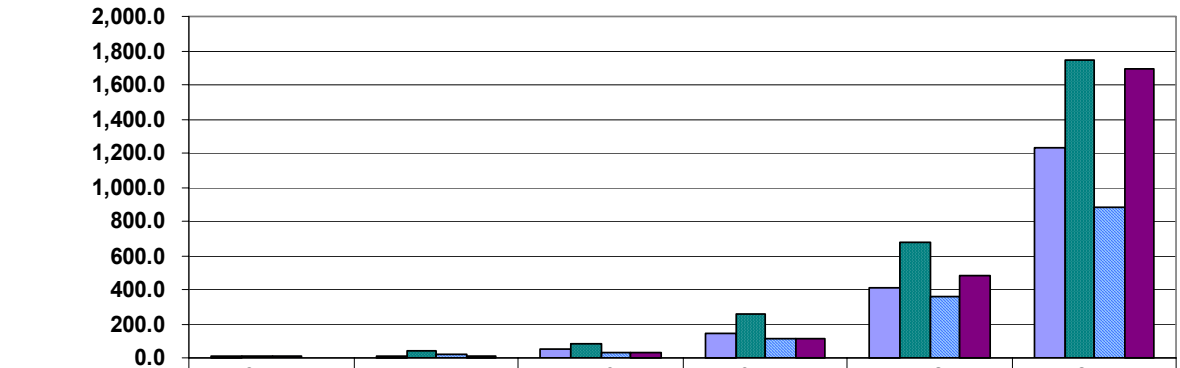
Table 1 (page 9) shows that among the reliable rates for California residents, and for each of the major race/ethnic groups, age-specific death rates increased with the age of the decedent.

In California, male reliable age-specific death rates were higher than female rates in most age groups, with the exception of the 25 to 34 and 85 and older age groups. For each of the major race/ethnic groups, males also had higher reliable age-specific death rates than females, except in the 85 and older age groups.

Figure 3 (page 4) shows that among the major race/ethnic groups Blacks had the highest reliable age-specific death rates in the 35 through 85 and older age groups. Whites had the lowest reliable age-specific death rates in the 35 through 74 agre groups, and Hispanic rates were lowest in the 75 through 85 and older age groups. All age groups not shown for the major race/ethnic groups under age 35 were unreliable except for Hispanics and Whites in age groups 25 to 34 (see Table 1) where the Hispanic rate was highest.

See the Vital Statistics Query System (VSQ) at our Web site www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm to create your own vital statistics tables.

FIGURE 3
CEREBROVASCULAR DISEASE AGE-SPECIFIC DEATH RATES
BY RACE/ETHNICITY AND AGE*
CALIFORNIA 2001



	35-44	45-54	55-64	65-74	75-84	85+
ASIAN/OTHER	5.2	14.1	48.4	148.5	406.1	1,235.5
BLACK	7.8	44.6	86.6	253.0	681.9	1,741.2
HISPANIC	5.8	16.9	35.5	114.3	362.3	882.6
WHITE	3.8	9.5	28.5	110.7	483.6	1,697.3

Source: State of California, Department of Health Services, Death Records.
*Calculated using death data for California residents only.

Cerebrovascular Disease Age-Adjusted Death Rates

In 2001 California's age-adjusted death rate was 59.4 per 100,000 population. California has not yet met the Healthy People 2010 National Health Objective to reduce the age-adjusted cerebrovascular disease death rate to no more than 48.0 deaths per 100,000 population.[6,8]

Among the major race/ethnic groups in 2001, Blacks had a significantly higher age-adjusted death rate (89.6) per 100,000 population than Whites (60.0), Asian/Other (54.5), and Hispanics (44.2).

Figure 4 (page 5) shows males had higher age-adjusted death rates than females overall and among each of the major race/ethnic groups, with the exception of Blacks. In California, the male age-adjusted death rate of 60.7 per 100,000 population was significantly higher than the female rate of 57.9. Asian/Other, Hispanic, and White males had significantly higher age-adjusted death rates compared with their female counterparts.

Cerebrovascular Disease Death Rates for California Counties

Table 2 (page 10) shows the 1999-2001 average number of cerebrovascular disease deaths with crude and age-adjusted death rates for California and its 58 counties.

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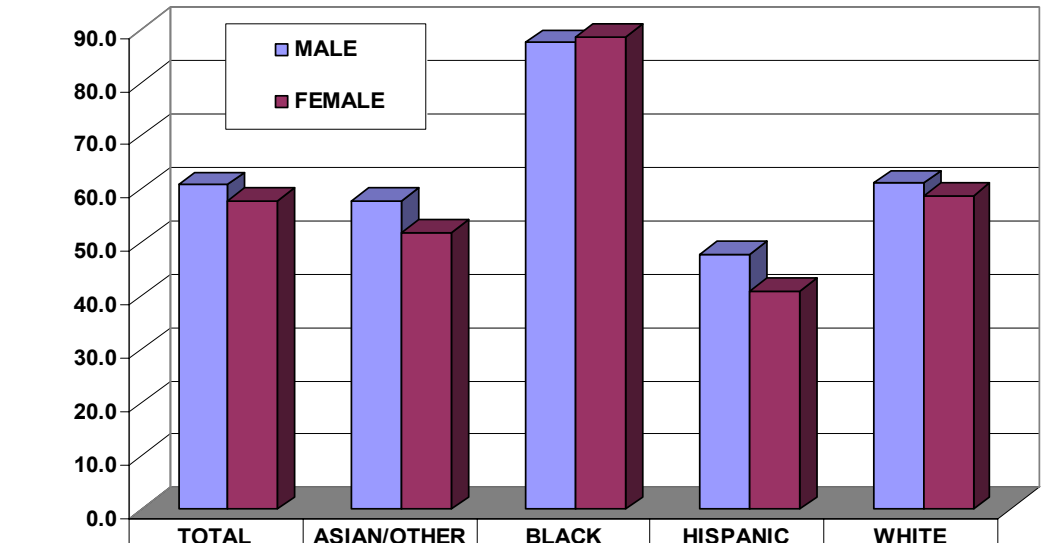
[8] *Klein RJ, Schoenborn, CA. Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population. National Center for Health Statistics, DHHS Publication, No 20. January 2001.*

You can read more about crude and age-adjusted death rates on the National Center for Health Statistics Web site at www.cdc.gov/nchs

FIGURE 4
CEREBROVASCULAR DISEASE AGE-ADJUSTED DEATH RATES
BY SEX AND RACE/ETHNICITY*
CALIFORNIA 2001



	TOTAL	ASIAN/OTHER	BLACK	HISPANIC	WHITE
MALE	60.7	57.8	87.5	47.8	61.1
FEMALE	57.9	51.8	88.6	40.9	58.8

Source: State of California, Department of Health Services, Death Records.
***Calculated using death data for California residents only.**

The highest average number of cerebrovascular disease deaths among California's counties occurred in Los Angeles County (4,368.0), followed by San Diego County (1,567.0), and Orange County (1,322.3).

Among the 47 counties with reliable rates, Lake County had the highest crude death rate (114.3) per 100,000 population and Imperial County had the lowest rate (36.0). Among the reliable age-adjusted death rates, Yuba County had the highest rate (87.4), and El Dorado County had the lowest rate (45.1).

The Healthy People 2010 National Objective to reduce cerebrovascular disease deaths to an age-adjusted rate of no more than 48.0 deaths per 100,000 population was met by 14 counties (five counties, El Dorado, Tuolumne, San Benito, Imperial, and Madera had reliable rates), but not California as a whole, which had an age-adjusted death rate of 61.2 for the three-year period.

Cerebrovascular Disease Deaths among the Three City Health Jurisdictions

Table 3 (page 6) shows the 1999-2001 average number of cerebrovascular disease deaths and crude death rates for California's three city health jurisdictions.

Age-adjusted death rates were not calculated for city health jurisdictions because city population data by age are not available.

For more data, see DHS Center for Health Statistics, Home Page at www.dhs.ca.gov/org/hisp/chs/chsindex.htm

Long Beach had the highest average number of deaths (231.0), followed by Pasadena (83.0), and Berkeley (64.0). The crude death rates were 62.4 per 100,000 population for Berkeley, 62.1 for Pasadena, and 50.2 for Long Beach.

TABLE 3
CEREBROVASCULAR DISEASE DEATHS
AMONG THE CITY HEALTH JURISDICTIONS*
CALIFORNIA 1999-2001

CITY HEALTH JURISDICTION	AVERAGE NUMBER OF DEATHS	2000 POPULATION	CRUDE DEATH RATE
BERKELEY	64.0	102,500	62.4
LONG BEACH	231.0	459,900	50.2
PASADENA	83.0	133,600	62.1

Note: Rates are per 100,000 population; ICD-10 codes I60-I69.
*Calculated using death data for California residents only.
Source: State of California, Department of Finance, E-4 Historical City/County Population Estimates 1991-2000, with 1990 and 2000 Census Counts, March 2002.
State of California, Department of Health Services, Death Records.

Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the differing age compositions of various populations, crude rates do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time. The 2000 population standard is used as the basis for age-adjustments in this report.

Data Limitations and Qualifications

The cerebrovascular disease death data presented in this report are based on the vital statistics records with ICD-10 codes I60-I69 as defined by the National Center for Health Statistics.[2] Deaths by place of residence means that the data include only those deaths occurring to residents of California and its counties, regardless of the place of death.

The term “significant” within the text indicates statistically significant based on the difference between two independent rates ($p < .05$).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*).

Beginning in 1999, cause of death is reported using ICD-10.[9] Causes of death for 1979 through 1998 were coded using the International Classification of Diseases, Ninth Revision (ICD-9). Depending on the specific cause of death, the numbers of deaths and death rates are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data.

The four race/ethnic groups presented in the table are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown; and "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Hmong, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.[10]

Beginning in 2000, federal race/ethnicity reporting guidelines changed to allow the reporting of up to three races on death certificates. The race/ethnic groups in this report were tabulated based on the first listed race on those certificates where more than one race was listed. Race groups for 2000 and later are therefore not strictly compatible with prior years and trends should be viewed with caution.

Effective with 1999 mortality data, the standard population for calculating age-adjustments was changed from the 1940 population standard to the 2000 population standard, in accordance with new statistical policy implemented by the National Center for Health Statistics. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparisons of mortality.[11] Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in **Table 3** (page 6) differ from the population data used to calculate the crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the city three health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for city health jurisdictions were not calculated due to the unavailability of city population data by age.

For a more complete explanation of the age-adjustment methodology used in this report, see the "Healthy People 2010 Statistical Notes" publication.[8] Detailed information on data quality and limitations is presented in the appendix of the annual report,

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[9] **World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.**

[10] **Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. Vital and Health Statistics, Series 2, No. 128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.**

[11] **Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National Vital Statistics Reports; Vol 47, No. 3. Hyattsville, Maryland: National Center for Health Statistics, 1998.**

"Vital Statistics of California." [12] Formulas used to calculate death rates are included in the technical notes of the "County Health Status Profiles" report.[13]

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[12] **Riedmiller K, Ficenic S, Bindra K, Christensen J. Vital Statistics of California, 1999. Center for Health Statistics, California Department of Health Services, April 2002.**

[13] **Schmidt C, Wilson C. County Health Status Profiles 2003. Center for Health Statistics, California Department of Health Services, April 2003.**

TABLE 1

DEATHS DUE TO CEREBROVASCULAR DISEASE BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2001
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
										TOTAL		MALE		FEMALE	
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
UNDER 1	10	2	8	560,999	286,873	274,126	1.8 *	0.7 *	2.9 *	0.7	2.9	0.0	1.7	0.9	4.9
1 - 4	3	2	1	2,243,262	1,147,543	1,095,719	0.1 *	0.2 *	0.1 *	0.0	0.3	0.0	0.4	0.0	0.3
5 - 14	11	5	6	5,672,643	2,906,408	2,766,235	0.2 *	0.2 *	0.2 *	0.1	0.3	0.0	0.3	0.0	0.4
15 - 24	21	13	8	4,753,513	2,467,107	2,286,406	0.4	0.5 *	0.3 *	0.3	0.6	0.2	0.8	0.1	0.6
25 - 34	77	36	41	4,918,489	2,594,607	2,323,882	1.6	1.4	1.8	1.2	1.9	0.9	1.8	1.2	2.3
35 - 44	279	158	121	5,765,426	2,956,340	2,809,086	4.8	5.3	4.3	4.3	5.4	4.5	6.2	3.5	5.1
45 - 54	656	354	302	4,674,074	2,325,619	2,348,455	14.0	15.2	12.9	13.0	15.1	13.6	16.8	11.4	14.3
55 - 64	1,019	541	478	2,862,622	1,396,328	1,466,294	35.6	38.7	32.6	33.4	37.8	35.5	42.0	29.7	35.5
65 - 74	2,437	1,292	1,145	1,976,584	916,584	1,060,000	123.3	141.0	108.0	118.4	128.2	133.3	148.6	101.8	114.3
75 - 84	6,279	2,707	3,572	1,337,545	547,455	790,090	469.4	494.5	452.1	457.8	481.1	475.8	513.1	437.3	466.9
85 & OLDER	7,286	2,185	5,101	468,178	149,547	318,631	1,556.2	1,461.1	1,600.9	1,520.5	1,592.0	1,399.8	1,522.3	1,557.0	1,644.8
UNKNOWN	0	0	0												
TOTAL	18,078	7,295	10,783	35,233,335	17,694,411	17,538,924	51.3	41.2	61.5	50.6	52.1	40.3	42.2	60.3	62.6
AGE-ADJUSTED							59.4	60.7	57.9	58.6	60.3	59.3	62.2	56.8	59.0
ASIAN/OTHER															
UNDER 1	3	1	2	69,275	35,440	33,835	4.3 *	2.8 *	5.9 *	0.0	9.2	0.0	8.4	0.0	14.1
1 - 4	0	0	0	274,035	140,219	133,816	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 - 14	3	1	2	682,107	351,057	331,050	0.4 *	0.3 *	0.6 *	0.0	0.9	0.0	0.8	0.0	1.4
15 - 24	1	0	1	626,372	320,815	305,557	0.2 *	0.0 +	0.3 *	0.0	0.5	-	-	0.0	1.0
25 - 34	10	4	6	663,350	335,748	327,602	1.5 *	1.2 *	1.8 *	0.6	2.4	0.0	2.4	0.4	3.3
35 - 44	37	27	10	709,159	345,299	363,860	5.2	7.8	2.7 *	3.5	6.9	4.9	10.8	1.0	4.5
45 - 54	84	46	38	596,166	282,159	314,007	14.1	16.3	12.1	11.1	17.1	11.6	21.0	8.3	15.9
55 - 64	162	83	79	334,827	159,091	175,736	48.4	52.2	45.0	40.9	55.8	40.9	63.4	35.0	54.9
65 - 74	334	165	169	224,875	99,888	124,987	148.5	165.2	135.2	132.6	164.5	140.0	190.4	114.8	155.6
75 - 84	536	259	277	131,980	56,160	75,820	406.1	461.2	365.3	371.7	440.5	405.0	517.3	322.3	408.4
85 & OLDER	512	202	310	41,442	17,481	23,961	1,235.5	1,155.5	1,293.8	1,128.4	1,342.5	996.2	1,314.9	1,149.7	1,437.8
UNKNOWN	0	0	0												
TOTAL	1,682	788	894	4,353,588	2,143,357	2,210,231	38.6	36.8	40.4	36.8	40.5	34.2	39.3	37.8	43.1
AGE-ADJUSTED							54.5	57.8	51.8	51.9	57.1	53.7	61.9	48.4	55.3
BLACK															
UNDER 1	0	0	0	37,075	18,968	18,107	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 - 4	1	1	0	148,109	75,817	72,292	0.7 *	1.3 *	0.0 +	0.0	2.0	0.0	3.9	-	-
5 - 14	1	0	1	413,833	209,845	203,988	0.2 *	0.0 +	0.5 *	0.0	0.7	-	-	0.0	1.5
15 - 24	2	1	1	364,172	192,652	171,520	0.5 *	0.5 *	0.6 *	0.0	1.3	0.0	1.5	0.0	1.7
25 - 34	9	4	5	344,312	182,447	161,865	2.6 *	2.2 *	3.1 *	0.9	4.3	0.0	4.3	0.4	5.8
35 - 44	30	15	15	385,985	188,545	197,440	7.8	8.0 *	7.6 *	5.0	10.6	3.9	12.0	3.8	11.4
45 - 54	135	73	62	302,852	142,935	159,917	44.6	51.1	38.8	37.1	52.1	39.4	62.8	29.1	48.4
55 - 64	149	75	74	172,047	79,765	92,282	86.6	94.0	80.2	72.7	100.5	72.7	115.3	61.9	98.5
65 - 74	271	144	127	107,106	47,268	59,838	253.0	304.6	212.2	222.9	283.1	254.9	354.4	175.3	249.2
75 - 84	422	164	258	61,885	23,844	38,041	681.9	687.8	678.2	616.8	747.0	582.5	793.1	595.5	761.0
85 & OLDER	321	70	251	18,436	5,511	12,925	1,741.2	1,270.2	1,942.0	1,550.7	1,931.6	972.6	1,567.7	1,701.7	2,182.2
UNKNOWN	0	0	0												
TOTAL	1,341	547	794	2,355,812	1,167,597	1,188,215	56.9	46.8	66.8	53.9	60.0	42.9	50.8	62.2	71.5
AGE-ADJUSTED							89.6	87.5	88.6	84.7	94.5	79.7	95.3	82.4	94.8
HISPANIC															
UNDER 1	2	0	2	272,023	139,031	132,992	0.7 *	0.0 +	1.5 *	0.0	1.8	-	-	0.0	3.6
1 - 4	1	1	0	1,070,328	547,371	522,957	0.1 *	0.2 *	0.0 +	0.0	0.3	0.0	0.5	-	-
5 - 14	3	2	1	2,398,512	1,225,596	1,172,916	0.1 *	0.2 *	0.1 *	0.0	0.3	0.0	0.4	0.0	0.3
15 - 24	12	7	5	1,664,220	861,697	802,523	0.7 *	0.8 *	0.6 *	0.3	1.1	0.2	1.4	0.1	1.2
25 - 34	33	19	14	1,767,279	977,600	789,679	1.9	1.9	1.8 *	1.2	2.5	1.1	2.8	0.8	2.7
35 - 44	98	57	41	1,701,500	916,547	784,953	5.8	6.2	5.2	4.6	6.9	4.6	7.8	3.6	6.8
45 - 54	178	93	85	1,050,953	536,610	514,343	16.9	17.3	16.5	14.4	19.4	13.8	20.9	13.0	20.0
55 - 64	189	118	71	532,881	260,356	272,525	35.5	45.3	26.1	30.4	40.5	37.1	53.5	20.0	32.1
65 - 74	379	210	169	331,669	152,519	179,150	114.3	137.7	94.3	102.8	125.8	119.1	156.3	80.1	108.6
75 - 84	626	296	330	172,771	71,849	100,922	362.3	412.0	327.0	333.9	390.7	365.0	458.9	291.7	362.3
85 & OLDER	517	157	360	58,574	19,479	39,095	882.6	806.0	920.8	806.6	958.7	679.9	932.1	825.7	1,016.0
UNKNOWN	0	0	0												
TOTAL	2,038	960	1,078	11,020,710	5,708,655	5,312,055	18.5	16.8	20.3	17.7	19.3	15.8	17.9	19.1	21.5
AGE-ADJUSTED							44.2	47.8	40.9	42.2	46.2	44.5	51.0	38.4	43.4
WHITE															
UNDER 1	5	1	4	182,626	93,434	89,192	2.7 *	1.1 *	4.5 *	0.3	5.1	0.0	3.2	0.1	8.9
1 - 4	1	0	1	750,790	384,136	366,654	0.1 *	0.0 +	0.3 *	0.0	0.4	-	-	0.0	0.8
5 - 14	4	2	2	2,178,191	1,119,910	1,058,281	0.2 *	0.2 *	0.2 *	0.0	0.4	0.0	0.4	0.0	0.5
15 - 24	6	5	1	2,098,749	1,091,943	1,006,806	0.3 *	0.5 *	0.1 *	0.1	0.5	0.1	0.9	0.0	0.3
25 - 34	25	9	16	2,143,548	1,098,812	1,044,736	1.2	0.8 *	1.5 *	0.7	1.6	0.3	1.4	0.8	2.3
35 - 44	114	59	55	2,968,782	1,505,949	1,462,833	3.8	3.9	3.8	3.1	4.5	2.9	4.9	2.8	4.8
45 - 54	259	142	117	2,724,103	1,363,915	1,360,188	9.5	10.4	8.6	8.3	10.7	8.7	12.1	7.0	10.2
55 - 64	519	265	254	1,822,867	897,116	925,751	28.5	29.5	27.4	26.0	30.9	26.0	33.1	24.1	30.8
65 - 74	1,453	773	680	1,312,934	616,909	696,025	110.7	125.3	97.7	105.0	116.4	116.5	134.1	90.4	105.0
75 - 84	4,695	1,988	2,707	970,909	395,602	575,307	483.6	502.5	470.5	469.7	497.4	480.4	524.6	452.8	488.3
85 & OLDER	5,936	1,756	4,180	349,726	107,076	242,650	1,697.3	1,640.0	1,722.6	1,654.1	1,740.5	1,563.3	1,716.7	1,670.4	1,774.9
UNKNOWN	0	0	0												
TOTAL	13,017	5,000	8,017	17,503,225	8,674,802	8,828,423	74.4	57.6	90.8	73.1	75.6	56.0	59.2	88.8	92.8
AGE-ADJUSTED							60.0	61.1	58.8	58.9	61.0	59.4	62.8	57.5	60.1

Note: ICD-10 Codes I60-I69; rates are per 100,000 population.
Year 2000 U.S. standard population is used for age-adjusted rates.
White, Black, and Asian/Other exclude Hispanic ethnicity.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent.
\+ Standard error indeterminate, death rate based on no (zero) deaths.
\- Confidence limit is not calculated for no (zero) deaths.

The race/ethnic groups on this table were tabulated based on the first listed race on those certificates where more than one race was listed.

Source State of California, Department of Finance, 2001 Population Projections with Age, Sex and Race/Ethnic Detail, Decembe r, 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO CEREBROVASCULAR DISEASE
CALIFORNIA COUNTIES, 1999-2001
(By Place of Residence)

COUNTY	1999-2001 DEATHS (AVERAGE)	PERCENT	2000 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	18,082.3	100.0	34,653,395	52.2	61.2	60.3	62.1
ALAMEDA	853.3	4.7	1,470,155	58.0	68.2	63.6	72.7
ALPINE	0.3	a	1,239	26.9 *	34.8 *	0.0	152.8
AMADOR	32.0	0.2	34,853	91.8	60.1	39.1	81.2
BUTTE	182.0	1.0	207,158	87.9	58.1	49.6	66.7
CALAVERAS	29.0	0.2	42,041	69.0	49.2	31.0	67.3
COLUSA	7.3	a	20,973	35.0 *	33.8 *	9.3	58.4
CONTRA COSTA	618.7	3.4	931,946	66.4	71.6	66.0	77.3
DEL NORTE	16.0	0.1	31,155	51.4 *	44.0 *	22.4	65.7
EL DORADO	70.3	0.4	163,197	43.1	45.1	34.5	55.8
FRESNO	427.0	2.4	811,179	52.6	63.7	57.6	69.7
GLENN	21.0	0.1	29,298	71.7	65.2	37.2	93.2
HUMBOLDT	85.0	0.5	128,419	66.2	65.0	51.2	78.9
IMPERIAL	55.7	0.3	154,549	36.0	47.2	34.8	59.6
INYO	13.7	0.1	18,437	74.1 *	45.9 *	21.4	70.4
KERN	311.3	1.7	677,372	46.0	55.7	49.5	61.9
KINGS	53.0	0.3	126,672	41.8	66.5	48.6	84.5
LAKE	68.7	0.4	60,072	114.3	65.3	49.6	80.9
LASSEN	13.0	0.1	35,959	36.2 *	41.2 *	18.8	63.6
LOS ANGELES	4,368.0	24.2	9,838,861	44.4	57.5	55.8	59.3
MADERA	56.7	0.3	126,394	44.8	47.9	35.4	60.3
MARIN	186.0	1.0	248,397	74.9	73.1	62.6	83.6
MARIPOSA	11.7	0.1	16,762	69.6 *	44.8 *	18.9	70.6
MENDOCINO	65.0	0.4	90,442	71.9	65.0	49.2	80.9
MERCED	109.0	0.6	215,256	50.6	69.4	56.4	82.5
MODOC	9.7	0.1	10,481	92.2 *	63.3 *	23.2	103.3
MONO	2.7	a	10,891	24.5 *	34.5 *	0.0	76.9
MONTEREY	199.7	1.1	401,886	49.7	63.3	54.5	72.1
NAPA	132.7	0.7	127,084	104.4	76.4	63.3	89.5
NEVADA	90.3	0.5	97,020	93.1	62.8	49.8	75.9
ORANGE	1,322.3	7.3	2,833,190	46.7	65.1	61.6	68.6
PLACER	155.0	0.9	243,646	63.6	66.6	56.1	77.1
PLUMAS	11.0	0.1	20,852	52.8 *	35.0 *	14.2	55.8
RIVERSIDE	902.3	5.0	1,570,885	57.4	55.4	51.7	59.0
SACRAMENTO	748.3	4.1	1,212,527	61.7	72.1	67.0	77.3
SAN BENITO	20.3	0.1	51,853	39.2	46.5	26.3	66.8
SAN BERNARDINO	716.7	4.0	1,727,452	41.5	61.3	56.8	65.8
SAN DIEGO	1,567.0	8.7	2,943,001	53.2	61.1	58.0	64.1
SAN FRANCISCO	574.7	3.2	792,049	72.6	57.2	52.5	61.9
SAN JOAQUIN	392.3	2.2	579,712	67.7	72.6	65.4	79.8
SAN LUIS OBISPO	162.7	0.9	254,818	63.8	52.3	44.2	60.4
SAN MATEO	471.7	2.6	747,061	63.1	63.0	57.3	68.6
SANTA BARBARA	258.0	1.4	412,071	62.6	61.3	53.8	68.7
SANTA CLARA	735.7	4.1	1,763,252	41.7	59.6	55.3	64.0
SANTA CRUZ	120.3	0.7	260,248	46.2	48.9	40.1	57.7
SHASTA	109.7	0.6	175,777	62.4	54.4	44.2	64.6
SIERRA	1.7	a	3,457	48.2 *	26.2 *	0.0	66.1
SISKIYOU	33.3	0.2	45,194	73.8	54.6	36.0	73.3
SOLANO	215.7	1.2	399,841	53.9	79.8	69.1	90.6
SONOMA	349.0	1.9	459,258	76.0	68.4	61.2	75.6
STANISLAUS	255.3	1.4	459,025	55.6	64.6	56.7	72.5
SUTTER	58.3	0.3	82,040	71.1	67.8	50.3	85.2
TEHAMA	44.3	0.2	56,666	78.2	58.1	40.9	75.4
TRINITY	9.7	0.1	13,490	71.7 *	57.1 *	20.8	93.4
TULARE	198.3	1.1	379,944	52.2	61.7	53.1	70.3
TUOLUMNE	36.0	0.2	56,125	64.1	45.2	30.3	60.0
VENTURA	389.0	2.2	753,820	51.6	64.3	57.9	70.7
YOLO	90.0	0.5	164,010	54.9	66.9	53.1	80.8
YUBA	45.0	0.2	63,983	70.3	87.4	61.8	113.0

Note: ICD-10 codes I60-I69; rates are per 100,000 population.
* Death rate unreliable (relative standard error is greater than or equal to 23 percent.
a Represents a percentage of more than zero but less than 0.05.
Source: State of California, Department of Finance, Race/Ethnic Population Projections by County with Age and Sex Detail, 19702040, December, 1998.
State of California, Department of Health Services, Death Records.